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 UNITED STATES AIR FORCE AF-01 77 00.00 55 (October 2007)  
 CCAFS/PAFB -----  
 Preparing Activity: AF Superseding  
 AF-01 77 00 (April 2006)

Revised throughout - changes not indicated by CHG tags

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SECTION 01 77 00.00 55

CLOSEOUT PROCEDURES

10/07

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NOTE: This guide specification covers the requirements for project closeout requirements required for use in all projects.

Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable items(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

Comments and suggestions on this guide specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Recommended changes to a UFGS should be submitted as a Criteria Change Request (CCR).

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## PART 1 GENERAL

### 1.1 SUMMARY

The requirements of this Section apply to, and are a component part of, each section of the specifications.

### 1.2 SUBMITTALS

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NOTE: Review Submittal Description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control.

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The following shall be submitted in accordance with Section 01 33 00 SUBMITTALS PROCEDURES in sufficient detail to show full compliance with the specification:

#### SD-01 Preconstruction Submittals

The following shall be submitted in accordance with paragraph entitled, "General," of this section.

##### Reproducible Drawings

##### CAD System Drawings

#### SD-02 Shop Drawings

As-Built Drawings shall be submitted in accordance with paragraph entitled, "General," of this section.

#### SD-03 Product Data

Spare Parts Data shall be in accordance with paragraph entitled, "General," of this section.

#### SD-07 Certificates

A Work Plan shall be submitted in accordance with paragraph entitled, "General," of this section.

#### SD-08 Manufacturer's Instructions

The following shall be submitted in accordance with paragraph entitled, "General," of this section.

##### Preventative Maintenance and Inspection

##### Posted Instructions

#### SD-10 Operation and Maintenance Data

Operation and Maintenance Manuals shall be submitted in accordance with paragraph entitled, "Operation and Maintenance," of this section.

### 1.3 RECORD DOCUMENTS

Reproducible Drawings and CAD System Drawings shall be submitted as follows:

Four hard copies of each drawing or product data record; and electronic versions on a CD ROM showing each drawing, or product data record, shall be submitted for historical record.

Final drawings shall incorporate contract changes and plan deviations. Lines, letters, and details will be sharp, clear, and legible. Additions or corrections to the drawings will be drawn to the scale of the original drawing. One copy, marked with review notations by the Contracting Officer, will be returned to the Contractor. Drawings are to be resubmitted within 30 calendar days after the completion of the representative work effort.

Documents shall be current. Contractor shall not conceal record information until as-built drawings have been made. Record drawings shall be submitted with a transmittal letter containing date, project title, Contractor's name and address, document list, and Contractor's

signature.

Redlined **As-Built Drawings** shall be submitted under the following criteria:

In order to minimize the time for final payment at the completion of the project, the Contractor shall update the as-built drawings every month with the Contracting Officer's authorized representative. Payment--or a portion of the payment, including final payment--may be withheld until the as-built drawings have been redlined, and accepted by the Contracting Officer.

Redlined as-built drawings shall be submitted by the Contractor to incorporate contract changes and plan deviations. Lines, letters, and details shall be sharp, clear, and legible. Redlined as-built drawings are to be signed by the Contractor.

**Preventative Maintenance and Inspection** schedules shall be submitted by the Contractor with instructions that state when systems should be retested.

Schedule shall define the anticipated length of each test, test apparatus, number of personnel identified by responsibility, and a testing validation procedure permitting the record operation capability requirements. Each test feature; e.g., gpm, rpm, psi, shall have a sign-off blank for the Contractor and Contracting Officer. A remarks column of the testing validation procedure shall include references to operating limits of time, pressure, temperature, volume, voltage, current, acceleration, velocity, alignment, calibration, adjustments, cleaning, or special system notes. Procedures for preventative maintenance, inspection, adjustment, lubrication and cleaning necessary to minimize corrective maintenance and repair shall be delineated.

Repair requirements shall inform operators how to check out, troubleshoot, repair, and replace components of the system. Instructions shall include electrical and mechanical schematics and diagrams and diagnostic techniques necessary to enable operation and troubleshooting of the system after acceptance.

**A Work Plan** shall be submitted to the Contracting Officer for project closeout. Plan shall include all scheduled inspections, instruction classes, items, closeout dates for all functions, and shall list the required Government and Contractor personnel that will be taking part in these functions.

**Posted Instructions** shall be submitted by the Contractor with labels, signs, and templates of operating instructions that are required to be mounted or installed on or near the product for normal, safe operation.

**Operation and Maintenance Manuals** shall be consistent with the manufacturer's standard brochures, schematics, printed instructions, troubleshooting guides, general operating procedures, and safety precautions. Information shall be bound in manual format and grouped by technical sections. Test data shall be legible and of good quality. Light-sensitive reproduction techniques are acceptable provided finished pages are clear, legible, and not subject to fading. Pages for vendor data and manuals shall have 10 millimeter holes and be bound in 3-ring, loose-leaf binders. Data shall be organized by separate index and tabbed sheets, in a loose-leaf binder. Binder shall lie flat with printed sheets that are easy to read. Caution and warning indications shall be clearly labeled.

The manual and spare parts data sets shall be bound in individual folders which shall be labeled on the front cover with O & M Data, Project Title, and Number (as it appears on the Contract Drawings), Contract Number, and Contractor/Subcontractor name and phone number.

Contractor shall submit classroom and field instructions in the operation and maintenance of systems equipment where required by the technical provisions. These services shall be directed by the Contractor, using the manufacturer's factory-trained personnel or qualified representatives. Contracting Officer shall be given 7 days written notice of scheduled instructional services. Instructional materials belonging to the manufacturer or vendor, such as lists, static exhibits, and visual aids, shall be made available to the Contracting Officer.

Contractor shall submit 4 copies of the project operation and maintenance manuals 30 days prior to testing the system involved. Data shall be updated and resubmitted for final approval no later than 30 days prior to contract completion.

**Spare Parts Data** shall indicate manufacturer's name, phone number, part number, nomenclature, and stock level required for maintenance and repair. List those items that may be standard to the normal maintenance of the system.

Work Order/Project Checklist shall be provided to the Contractor at the pre-construction conference for completion and submittal prior to the pre-final inspection.

## PART 2 PRODUCTS

### 2.1 RECOVERED MATERIAL

Upon completion of contract, the Contractor shall:

- a. Estimate the percentage of the total recovered material used in contract performance, including, if applicable, the percentage of postconsumer material content; and
- b. Submit total recovered material estimate to the Contracting Officer.

## PART 3 EXECUTION

### 3.1 OPERATIONS AND MAINTENANCE DATA AND AS-BUILT DRAWINGS

Provide four (4) complete sets of all vendor Installation/Operation/Maintenance/Repair/Overhaul Manuals and Spare Parts Data for approval.

The Manual shall include the following as a minimum:

- a. Internal and interconnecting wiring and control diagrams with data to explain detailed operations and control of the system or equipment.
- b. A control sequence describing startup, operation, and shutdown.

- c. Description of the function of each principal item of equipment.
- d. Installation instructions.
- e. Maintenance procedures, to include: repair, overhaul, testing, troubleshooting, and emergency procedures.
- f. Testing methods and procedures.
- g. Performance data.
- h. Safety precautions, diagrams, and illustrations.

The Spare Parts Data shall include complete parts lists with part numbers and manufacturer's stock numbers with drawings and/or schematics that will provide the necessary information for ordering spare or replacement parts.

A set of redlined as-built drawings shall also be provided. The redlined as-built drawings shall consist of a bond set of the Contract Drawings which have been red-lined to indicate any field changes made.

### 3.2 OPERATION AND MAINTENANCE TRAINING AND FINAL ACCEPTANCE

#### 3.2.1 Training Sessions

Training sessions shall be provided to instruct operations and maintenance personnel in the proper operation, maintenance, and trouble shooting of all equipment installed on this contract. Date(s) of training session(s) shall be approved by the Contracting Officer. See equipment specification sections for any additional requirements for O&M training on installed equipment or materials.

#### 3.2.2 Final Inspection and Acceptance

##### 3.2.2.1 Pre-Final/Final Inspection

Contractor shall request approval, in writing and 7 days in advance, from the Contracting Officer for the scheduled date of the pre-final/final inspection. The advance notice will give the government sufficient time to invite the appropriate government agencies to attend the final inspection. Contractor's final inspection request shall include 4 complete sets of all vendor Installation/Operation/Maintenance/Repair Manuals and Spare Parts data and four sets of redlined as-built drawings.

At the Government's discretion, a pre-final inspection will be conducted before approving the final inspection date. The pre-final inspection shall be conducted by the Contracting Officer's Representative and Contractor's Representative. Contractor shall correct all the discrepancies noted during the pre-final inspection before the scheduled final inspection date.

Prior to requesting final acceptance, all Contractor trailers shall be removed and all utility connections terminated in accordance with local codes. Equipment required for final acceptance shall be removed before final payment is made to the Contractor.

##### 3.2.2.2 Final Acceptance

Contractor shall request approval 5 days in advance from the Contracting Officer for the scheduled date of the final acceptance. At a minimum, the

Contractor shall schedule the final acceptance the day before the contract completion date. Contractor shall correct all the discrepancies noted during the final inspection before the scheduled date of the final acceptance. Final acceptance will not be accomplished if the Contractor has not corrected all the discrepancies noted during the final inspection and if all other contract requirements are not completed by the Contractor.

-- End of Section --